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# TRANSMITTAL OF APPEAL BRIEF

Docket No.  
NIL-166

In re Application of: Harushige Yamamoto

Application No.  
09/921,132-Conf. #6416

Filing Date  
August 3, 2001

Examiner  
M. O. Harvey

Group Art Unit  
2644

Invention: AUDIO SYSTEM FOR AUTOMOBILE AND PLUG TRANSMITTER USED IN SAME

## TO THE COMMISSIONER OF PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed: February 18, 2004

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Dated: April 16, 2004



# 7

Docket No.: NIL-166  
(PATENT)

B.D.

4/23/04

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Patent Application of:  
Harushige Yamamoto

Application No.: 09/921,132

Confirmation No.: 6416

Filed: August 3, 2001

Art Unit: 2644

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For: NIL-166 AUDIO SYSTEM FOR  
AUTOMOBILE AND PLUG TRANSMITTER  
USED IN SAME

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Examiner: Minsun Harvey

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APPELLANT'S BRIEFMS Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an Appeal Brief filed under 37 C.F.R. § 1.192 appealing the Final Rejection of the Primary Examiner dated November 18, 2003 (Paper No. 5). A Notice of Appeal was timely filed on February 18, 2004. The fees required under § 1.17, and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF. This brief is transmitted in triplicate.

This brief contains items under the following headings as required by 37 C.F.R. § 1.192 and M.P.E.P. § 1206:

- |       |                                   |
|-------|-----------------------------------|
| I.    | Real Party In Interest            |
| II    | Related Appeals and Interferences |
| III.  | Status of Claims                  |
| IV.   | Status of Amendments              |
| V.    | Summary of Invention              |
| VI.   | Issues                            |
| VII.  | Grouping of Claims                |
| VIII. | Arguments                         |

IX. Claims Involved in the Appeal  
Appendix A: Claims

**I. REAL PARTY IN INTEREST**

Niles Parts Co., Ltd. of Tokyo, Japan ("Niles") is the real party in interest of the present application. An assignment of all rights in the present application to Niles was executed by the inventor and recorded by the U.S. Patent and Trademark Office on October 11, 2001 at Reel 012049, Frame 0562.

**II. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

**III. STATUS OF CLAIMS**

A. Total Number of Claims in Application

There are nine (9) claims currently pending in the present application. Claims 1, 3-6 and 9 stand finally rejected, while claims 2, 7 and 8 have been merely objected to as being dependent upon a rejected base claim. Accordingly, the Appellant hereby appeals the final rejection of claims 1, 3-6 and 9, each of which is presented in Appendix A.

B. Current Status of Claims

1. Claims canceled: N/A
2. Claims withdrawn from consideration but not canceled: N/A
3. Claims pending: 1-9
4. Claims allowed: 2, 7 and 8 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include the limitations of their base and intervening claims.
5. Claims rejected: 1, 3-6 and 9

C. Claims On Appeal

The claims on appeal are claims 1, 3-6 and 9

**IV. STATUS OF AMENDMENTS**

No amendments to the claims have been made since the Final Office Action dated November 18, 2003 (Paper No. 5), which is the subject of this Appeal. Accordingly, the claims as presented in Appendix A represent the state of the claims as pending.

**V. SUMMARY OF INVENTION**

The present invention is directed to an audio system for automobiles comprising a plug transmitter plugged into a cigar lighter socket of an automobile for transmitting audio signals received from a portable audio device as a radio wave in a receiving frequency band of an

automobile's radio tuner. The present invention makes it possible to hear voice and music from a portable audio device, such as a portable telephone, CD player, memory card, smart media card, compact flash card or memory stick, in a hands-free state within an automobile without having to mount an additional amplifier.

In recent years, the use of portable audio devices has become widespread. When these portable audio devices are utilized in the conventional manner, the output device of the portable audio device is held to one's ear, or an earphone connected to the portable audio device is mounted to one's ear. It is desired, however, that operators be given the ability to carry the portable audio device into an automobile and enjoy the audio content from the portable audio device via the automobile's internal sound system.

In light of the above, a limited number of automobile radio tuners and cassette decks have been equipped with an automobile mounting audio device having an external input pin jack, thereby allowing the audio content from the portable audio device to be amplified and output to the automobile's internal speakers by connecting the portable audio device to the automobile mounting audio device.

However, although many automobiles are now equipped with conventional radio tuners and/or cassette decks, the number of automobiles also equipped with the above-described automobile mounting audio device having the external input pin jack is still very limited. In addition, even when automobiles are equipped with the above-described automobile audio mounting device, it is difficult, because of considerable weight, size and cost concerns, to mount the requisite amplifier for each and every kind of portable audio device to be used. Moreover, relatively few of the above-described automobile mounting devices contain a dedicated card reader for carrying, inserting and reproducing audio content from memory cards, smart media cards, compact flash cards, memory sticks, etc. given the various problems that arise relating to space and cost.

Accordingly, in view of the above problems and limitations associated with the prior art, an object of the present invention is to provide an audio system for an automobile and a plug transmitter used in this audio system in which an operator enjoys voice, music, etc. of a portable telephone or a portable audio device in a hands-free state without having to provide and mount an additional automobile amplifier, thereby overcoming various problems associated with the prior art related to weight, space, cost and ease of use. (See pg. 2, line 22 to pg. 3, line 5).

The audio system according to independent claim 1 comprises a radio mounted to the automobile, a plug transmitter plugged into a cigar lighter socket and able to input electric power from a power source mounted to the automobile, and a portable audio device connected to the plug transmitter. (*See* Figs. 1 & 2). The plug transmitter transmits an audio signal from the portable audio device as a radio wave in a receiving frequency band of the radio, and the radio receives the radio wave from the plug transmitter and performs an audio output operation via the automobile's internal speaker. (*See* pg. 3, lines 6-16). Accordingly, it is unnecessary to mount an additional amplifier, such that an operator may enjoy voice or music from a portable audio device in a hands-free state. (*See* pg. 3, lines 17-23).

In the plug transmitter according to independent claim 4, a transmitting circuit is stored in a case having a plug-in portion able to be plugged into a cigar lighter socket, a power input terminal for inputting electric power from a power source mounted to an automobile is arranged in the plug-in portion, an input connector connected to the transmitting circuit and inputting an audio signal from a portable audio device is arranged in the case, and the transmitting circuit is operated by the electric power from the power input terminal and transmits the audio signal as a radio wave in a receiving frequency band of a radio mounted to the automobile. (*See* pg. 4, lines 17-25).

Thus, the plug transmitter may be set to have a small signal output such that the plug transmitter can be made very compact. (*See* pg. 5, lines 4-10). Further, since the audio signal is transmitted as a radio wave to be received in a receiving frequency band of a radio mounted to the automobile, the plug transmitter can be utilized in any automobile, thereby permitting an operator to arbitrarily connect various kinds of portable audio devices by the input pin jack without being limited to a specific device or a specific automobile. (*See* pg. 5, lines 11-14).

## **VI. ISSUES**

The issue presented for consideration in this appeal is:

(1) Whether the Examiner erred in rejecting claims 1, 3-6 and 9 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,448,757 to Hirata ("Hirata")?

**VII. GROUPING OF CLAIMS**

For purposes of this appeal brief only, and without conceding the teachings of any prior art reference, the claims have been grouped as indicated below:

## Claim Groups:

- I. Claim 1
- II. Claim 3
- III. Claims 4, 5 and 6.
- IV. Claim 9.

In Section VIII below, Appellant has included arguments supporting the separate patentability of each claim group as required by M.P.E.P. § 1206.

**VIII. ARGUMENTS**

Claims 1, 3-6 and 9 stand finally rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,448,757 to Hirata ("Hirata").

According to Federal Circuit precedent, the burden of establishing a *prima facie* case of anticipation under 35 U.S.C. § 102 falls squarely on the shoulders of the examiner.<sup>1</sup> This burden is met "only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."<sup>2</sup> For the reasons set forth *infra*, the burden of establishing a *prima facie* anticipation rejection of claims 1, 3-6 and 9 of the present application has not been met, and withdrawal thereof is therefore respectfully requested.

**A. Claim 1 is Not Anticipated by Hirata**

Independent claim 1 of the present invention recites an audio system for an automobile comprising, *inter alia*, a plug transmitter plugged into a cigar lighter socket able to input electric power from a power source mounted to the automobile and able to transmit an audio signal from a portable audio device as a radio wave in a receiving frequency band, such that a radio mounted

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<sup>1</sup> See *In re King*, 801 F.2d 1324, 1327, 231 USPQ 136, 138-139 (Fed. Cir. 1986); *In re Wilder*, 429 F.2d 447, 450, 166 USPQ 545, 548 (C.C.P.A. 1970)

<sup>2</sup> *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) ("A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."). Accord. M.P.E.P. § 2131.

to the automobile receives the radio wave from the plug transmitter and performs an audio output operation from a speaker.

The plug transmitter according to the present invention draws power from a cigar lighter socket such that the signals inputted from portable audio devices may be modulated by an audio modulator portion and transmitted by a transmitter portion as radio waves for reception by an AM/FM radio tuner mounted in an automobile. (See page 22, lines 12-25). Accordingly, the plug transmitter disclosed in the present invention can be compactly constructed and portably carried for use in connection with internal audio systems of various automobiles for the reproduction of audio content of various portable audio devices.

In contrast to the present invention, the Hirata reference fails to disclose, teach or suggest a plug transmitter able to transmit an audio signal inputted from a portable audio device as a radio wave in a receiving frequency band, as is recited in claim 1 of the present invention. The invention disclosed in Hirata instead discloses an audio signal modulating system connected in series between a car antenna 4 and an FM tuner 5 for emphasizing the high frequencies of an audio signal input from a CD player or other reproduction device. (See col. 2, lines 13 to 27 and Fig. 1). Two forms of audio are input into the modulation system: FM radio signals via the car antenna 4, and audio from a device such as a CD or cassette player. The modulation system of Hirata then acts either as: 1) a bypass circuit for outputting FM radio signals received from the car antenna 4, or 2) a modulation circuit for converting an audio signal inputted from a CD device into an RF signal so as to be outputted to the FM tuner 5. (See col. 3, lines 27-32). In both cases, these audio signals are only output from the signal modulation system via RF output terminal 3, which is connected to the antenna terminal of FM tuner 5 through cords 3a, 3b and connector 3c. (See Figs. 1 and 3). Neither signal is transmitted as a radio wave in a receiving frequency band, as is recited in claim 1 of the present invention.

In other words, the invention disclosed in Hirata serves only to modulate signals inputted from a reproducing device, and does not employ the use of an RF transmission circuit for transmitting modulated signals as radio waves for reception in a receiving frequency band by an automobile's radio tuner. Instead, Hirata requires the use of a large number of special wires and connectors for connecting the modulation system 1 to the FM tuner 5, in addition to the numerous wires and connectors also required for connecting the system to the antenna 4, CD player 8 and controller 7. (See Fig. 1). The invention disclosed in Hirata is, therefore, not a portable wireless plug transmitter for transmitting a modulated audio signal as a radio wave, but



is instead merely a bulky modulation system connected in series with an FM tuner via multiple wires and connectors for modulating and emphasizing certain frequency signals. Hirata, therefore, fails to disclose, teach or suggest a plug transmitter able to transmit an audio signal inputted from a portable audio device as a radio wave.

In response to this position, the Examiner argues that “the applicant’s argument is not persuasive because ‘transmitted or propagated through the air’ cannot be found in the claims.” (See section 3 of the Final Office Action of November 18, 2003 (Paper No. 5)). This statement, however, misinterprets the plain language of the claims. Claim 1 of the present invention explicitly recites “wherein said plug transmitter *transmits an audio signal from the portable audio device as a radio wave in a receiving frequency band of said radio*, and said radio receives the radio wave from said plug transmitter ....” (See lines 8-13, emphasis added). Such language clearly describes transmitting or propagating radio waves through the air for reception in a receiving frequency band by an automobile’s radio tuner.

The specification of the present invention lends additional support to such an interpretation. According to pages 12-14 of the specification, the plug transmitter 10 of the present invention transmits an output signal received from a portable audio device 100 as a radio wave (in either the AM or FM band). (See Fig. 2). This radio wave is then received in a receiving frequency band of an automobile’s radio tuner 6, which then amplifies the radio wave through an internal amplifier and outputs it to a speaker SP within the automobile.

By transmitting the audio signal from the portable audio device as a radio wave to be received by the radio mounted in the automobile, the present invention avoids many of the problems encountered in both Hirata and the prior art. Namely, operators need not purchase or use separate adaptors or mounting devices (such as the modulation system 1 described in Hirata), nor are operators required to connect multiple cables or connectors (such as the RF terminal cords 3a and 3b and connector 3c required in Hirata). Thus, for at least the foregoing reasons, Hirata fails to disclose, teach or suggest transmitting an audio signal from a portable audio device as a radio wave in a receiving frequency band of an automobile’s radio, as is recited in claim 1 of the present invention.

Moreover, Hirata additionally fails to disclose, teach or suggest a “plug transmitter plugged into a cigar lighter socket”, as is recited in claim 1 of the present invention. In response to this position, the Examiner contends that “since the system of Hirata is being used in a

vehicle, it is inherent that the modulation system is plugged into a lighter socket.” The specification of Hirata, however, clearly teaches to the contrary.

The modulation system of Hirata is disclosed as being connected via “a grounding cord 6b, and a power supply cord 6c”, and not via a cigar lighter socket. (See col. 2, lines 23-24).

The Examiner has failed to point to any portion of Hirata that discloses, teaches or suggests that the modulation system of Hirata may also be plugged into an automobile’s cigar lighter socket.

In fact, in light of Hirata’s explicit requirement that the modulation system be connected to the automobile’s power source via “a grounding cord 6b, and a power supply cord 6c”, Hirata appears to openly teach away from the Examiner’s proposed inherency argument.

Accordingly, because Hirata fails to disclose, teach or suggest each and every limitation of claim 1 of the present invention, a *prima facie* anticipation rejection of the claims has not been established. Withdrawal of this rejection is therefore respectfully requested.

B. Claim 3 is Not Anticipated by Hirata

Claim 3 of the present invention recites an audio system for an automobile, wherein a constant voltage output circuit is further arranged in a plug transmitter such that electric power can be supplied to a portable audio device connected to the plug transmitter. Claim 3 is multiply-dependent upon independent claim 1, discussed *supra*, and dependent claim 2, indicated by the examiner as containing allowable subject matter. Thus, at least to the extent it depends upon allowable claim 2, claim 3 represents allowable subject matter.

The constant voltage output circuit of the present invention is constructed so as to supply 3 to 5 V of constant voltage to the portable audio device, effectively allowing the plug transmitter to double as a power adapter. (See pg. 20, lines 1-4). Accordingly, even when a battery of the portable audio device has been discharged, an operator may still enjoy the audio content of the portable audio device through the automobile’s internal sound system. (See pg. 5-18). In addition, the constant voltage output circuit also permits a drained battery of the portable audio device to be recharged within the automobile.

In contrast, Hirata fails to disclose, teach or suggest a constant voltage output circuit arranged in a plug transmitter such that electric power can be supplied to a portable audio device connected thereto. Although Hirata arguably teaches of outputting the audio content of a multi-CD player 8 to an audio signal modulation system 1 through coaxial cables 9a and 9b and connectors 9c and 9d, Hirata fails to teach of the CD-player 10 being powered by the signal

modulation system 1. Furthermore, Hirata utterly fails to disclose, teach or suggest the constant voltage circuit explicitly recited within claim 1 of the present invention. The examiner has failed to point to specific portions within Hirata as teaching to the contrary.

Accordingly, because Hirata fails to disclose, teach or suggest each and every limitation of claim 3 of the present invention, a *prima facie* anticipation rejection of the claims has not been established. Withdrawal of this rejection is therefore respectfully requested.

C. Claims 4, 5 and 6 are Not Anticipated by Hirata

Independent claim 4 of the present invention recites a plug transmitter characterized in that a transmitting circuit is stored in a case having a plug-in portion able to be plugged into a cigar lighter socket; a power input terminal for inputting electric power from a power source mounted to an automobile is arranged in the plug-in portion; an input connector connected to the transmitting circuit and inputting an audio signal from a portable audio device is arranged in the case; and the transmitting circuit is operated by the electric power from the power input terminal and transmits the audio signal as a radio wave in a receiving frequency band of a radio mounted to the automobile.

Because independent claim 4 of the present invention recites a “plug transmitter... plugged into a cigar lighter socket” and the ability to “transmit[] said audio signal as a radio wave in a receiving frequency band”, in much the same manner as is recited in claim 1, a rejection of claim 4 has not been established for essentially the same reasons as set forth above with respect to the rejection of claim 1. Arguments in support of this position are incorporated herein by reference to the discussion of the rejection of claim 1, *supra*. Withdrawal of the rejection of claim 4 is therefore respectfully requested.

Moreover, aside from the novel features and distinctions recited therein, claims 5 and 6, being dependent upon allowable base claim 4, also represent allowable subject matter for at least the foregoing reasons, and withdrawal of their rejection is courteously solicited.

D. Claim 9 is Not Anticipated by Hirata

Claim 9 recites a plug transmitter wherein a constant voltage output circuit for converting the electric power inputted from a power input terminal to an external power input voltage of the portable audio device is arranged in a case, and an output power jack connected to an output of the constant voltage output circuit is arranged in the case.

Claim 9 is multiply-dependent upon claims 4-6, discussed *supra*, and dependent claim 7, indicated by the examiner as containing allowable subject matter. Thus, at least to the extent it depends upon allowable claim 7, claim 9 represents allowable subject matter.

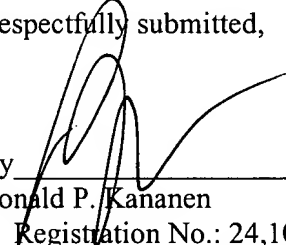
Because claim 9 recites a "a constant voltage output circuit" for providing converted power to a "portable audio device", in much the same manner as is recited in claim 3, a rejection of claim 9 has not been established for essentially the same reasons as set forth above with respect to the rejection of claim 3. Arguments in support of this position are incorporated herein by reference to the discussion of the rejection of claim 3, *supra*. Withdrawal of the rejection of claim 9 is therefore respectfully requested

**IX. CLAIMS INVOLVED IN THE APPEAL**

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A represent the state of the claims as pending.

Dated: April 16, 2004

Respectfully submitted,

By   
\_\_\_\_\_  
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**APPENDIX A**

**Claims Involved in the Appeal of Application Serial No. 09/921,132**

1. (Original) An audio system for an automobile comprising:
  - a radio mounted to the automobile;
  - a plug transmitter plugged into a cigar lighter socket and able to input electric power from a power source mounted to the automobile; and
  - a portable audio device connected to the plug transmitter; wherein
  - said plug transmitter transmits an audio signal from the portable audio device as a radio wave in a receiving frequency band of said radio, and
  - said radio receives the radio wave from said plug transmitter and performs an audio output operation from a speaker.
  
2. (Previously Presented) An audio system for an automobile according to claim 1, wherein a card reading modulator portion for reading data from a memory card, recording audio data, and outputting the read data as an audio signal is additionally arranged in said plug transmitter; and
  - the audio signal from the card reading modulator portion can be transmitted as a radio wave in the receiving frequency band of said radio.
  
3. (Original) An audio system for an automobile according to claim 1 or 2, wherein a constant voltage output circuit is further arranged in said plug transmitter, and electric power can be supplied to said portable audio device connected to the plug transmitter.
  
4. (Previously Presented) A plug transmitter characterized in that a transmitting circuit is stored in a case having a plug-in portion able to be plugged into a cigar lighter socket;
  - a power input terminal for inputting electric power from a power source mounted to an automobile is arranged in said plug-in portion;
  - an input connector connected to said transmitting circuit and inputting an audio signal from a portable audio device is arranged in said case; and

said transmitting circuit is operated by the electric power from said power input terminal and transmits said audio signal as a radio wave in a receiving frequency band of a radio mounted to the automobile.

5. (Original) A plug transmitter according to claim 4, wherein said input connector is an input pin jack into which a pin of an audio cable having one end connected to an external output terminal of said portable audio device is plugged.

6. (Original) A plug transmitter according to claim 4, wherein said input connector is a jack pin projected in an upper wall of said case, and the portable audio device is held on the case by plug-in coupling with a female jack arranged in the portable audio device.

7. (Previously Presented) A plug transmitter according to claims 4, 5 or 6, wherein a card reading modulator portion is connected to said transmitting circuit within said case,

a card insertion hole is formed in said case in accordance with a card insertion port of said card reading modulator portion, and

the card reading modulator portion reads data from a memory card recording audio data, and outputs the read data to said transmitting circuit as an audio signal.

8. (Original) An audio system for an automobile according to claim 7, wherein said case is constructed by a main body for storing said transmitting circuit and an adapter portion detachably attached to the main body, and

said card reading modulator portion is arranged in said main body.

9. (Previously Presented) A plug transmitter according to claims 4, 5, 6 or 7, wherein a constant voltage output circuit for converting the electric power inputted from said power input terminal to an external power input voltage of the portable audio device is arranged in said case, and an output power jack connected to an output of the constant voltage output circuit is arranged in said case.